OIL 0 9 2004

## Replacement Sheet

Serial No. 10/772,720, Applicants: Y. Dondi, et al.
Title: 10,10-DIALKYL PROSTANOIC ACID DERIVATIVES
AS AGENTS FOR LOWERING INTRAOCULAR PRESSURE
714.246.4348 Brent Johnson, ALLERGAN, INC.

# Fig. 1

(a) KOH, I-R $^2$ , dioxane/H $_2$ O; (b) KOH, I-R $^3$ , dioxane/H $_2$ O; (c) KOH, 1,2-dibromoethane, dioxane/H $_2$ O; (d) KOH, dioxane/H $_2$ O.

SHEET 2 OF 8 DOCKET 17540CIP (AP)
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Fig. 2

(a) KOH, MeI,dioxane/ $H_2O$ ; (b) Baker's Yeast, D-glucose,  $H_2O$ ; (c) TBSOTf, 2,6-lutidine,  $CH_2Cl_2$ ; (d) LDA, THF; PhSeCl; (e) 30%  $H_2O_2$ ,  $CH_2Cl_2$ .

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Fig. 3

HS 
$$\longrightarrow$$
 HS  $\longrightarrow$  CO<sub>2</sub>Me

(a) NaH,  $BrCH_2CO_2CH_3$ ; (b)  $H_2O_2$ , NaOH, MeOH; (c) basic Alumina,  $CH_2CI_2$ .

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#### Fig. 4

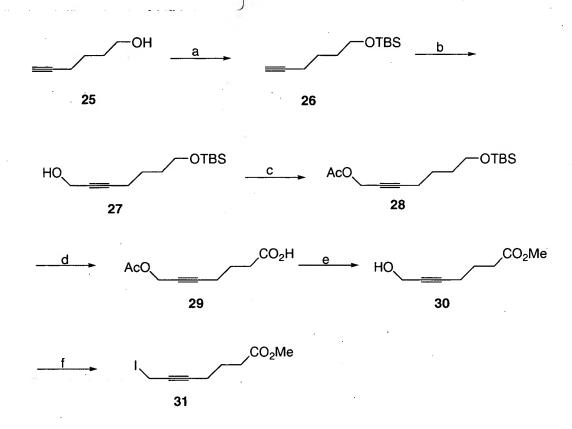
$$HO_2C$$
 $S$ 
 $CI$ 
 $HO_2C$ 
 $S$ 
 $HO$ 
 $S$ 
 $TPAP$ 
 $NMO$ 
 $NMO$ 
 $S$ 
 $S$ 
 $TPAP$ 
 $NMO$ 

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(a)Cp<sub>2</sub>ZrHCl, THF; (b) MeLi, Et<sub>2</sub>O -78 °C; (c) lithium 2-thienycyanocuprate; (d)enone **10**, THF -78 °C; (e) HF-pyridine, CH<sub>3</sub>CN; separate diastereomers (i) rabbit liver esterase, phosphate buffer, CH<sub>3</sub>CN.

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Fig. 6



(a) TBSCl, etc.; (b) n-BuLi; DMF; (c) Ac<sub>2</sub>O, pyridine; (d) Jones oxidation; (e) MeOH, AcCl; (f) PPh<sub>3</sub>, I<sub>2</sub>, imidazole, CH<sub>2</sub>Cl<sub>2</sub>.

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#### Fig. 7

$$CO_2R$$
 $CO_2CH_3$ 
 $CO_2CH_3$ 
 $CO_2CH_3$ 
 $CO_2CH_3$ 

low Rf + high Rf diastereomers

low Rf + high Rf diastereomers

low Rf + high Rf diastereomers

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(a) *t*-BuLi, THF -78 °C; (b) Me<sub>2</sub>Zn; (c) HF-pyridine, CH<sub>3</sub>CN; separate diastereomers; (d) rabbit liver esterase, pH 7.2 phosphate buffer, CH<sub>3</sub>CN; (e) NiCl<sub>2</sub>, NaBH<sub>4</sub>, ethylenediamine, H<sub>2</sub>, THF;

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Fig. 8

(a) CICO<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>, Et<sub>3</sub>N, CH<sub>2</sub>Cl<sub>2</sub>; NH<sub>4</sub>OH <sub>(aq)</sub>; (b) EDCI, N-hydroxysuccinimide, H<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH, DMF.